

What is claimed is:

1. An image processing apparatus, comprising:  
generation means for generating a bitmap image on  
the basis of inputted object data;

5 hold means for holding attribute information  
representing an attribute of said inputted object data  
in correspondence with each pixel of a bitmap image  
generated by said generation means;

conversion means for converting the bitmap image  
10 generated by said generation means into data capable of  
being processed by an image output unit; and

switch means for switching the contents of  
processing in said conversion means on the basis of the  
attribute information held by said hold means.

15 2. The image processing apparatus according to Claim  
1, wherein said holding means holds an attribute map in  
which the attribute information is arranged for each  
pixel corresponding to a two-dimensional coordinate  
position of said bitmap image.

20 3. The image processing apparatus according to Claim  
1, wherein said holding means embeds said attribute  
information into bits of a part of each pixel data of  
said bitmap image.

4. The image processing apparatus according to Claim  
25 1, wherein said attribute information contains  
information representing whether object data

corresponding thereto has the form of bitmap data or  
the form of vector data.

5. The image processing apparatus according to Claim 1, wherein said conversion means includes processing 5 for converting a bitmap image generated by said generation means into binary data using a dither matrix, and said switching means changes the dither matrix used in said conversion means on the basis of said attribute information.

10 6. The image processing apparatus according to Claim 1, wherein said generation means generates a bitmap image based on RGB color space, said conversion means includes color conversion processing for converting each pixel data of said bitmap image into pixel data 15 represented by YMCK color space, and said switch means changes algorithm of said color conversion processing on the basis of the attribute information held by said holding means.

7. The image processing apparatus according to Claim 20 1, said attribute information is configured by a plurality of bits, and said switch means switches the contents of processing of said conversion means in accordance with combination of ON/OFF states of each bit.

8. The image processing apparatus according to Claim 7, wherein each bit of said attribute information represents an independent attribute.

9. The image processing apparatus according to Claim 5 7, wherein said attribute information contains a bit group representing a specific attribute using a plurality of bits.

10. The image processing apparatus according to Claim 1, wherein said object data is represented by a page description language.

11. A storage medium for storing a control program for image processing, said control program comprising:  
program codes for a generation process for generating a bitmap image on the basis of object data 15 inputted;

codes of a holding process for holding attribute information representing an attribute of said object data with bringing it into correspondence with each pixel of a bitmap image generated in said generation 20 process for holding in a memory;

codes of a conversion process for converting the bitmap image generated in said generation process into data capable of being processed by an image output unit; and

25 codes of a switching process for switching the contents of processing in said conversion process on

the basis of attribute information held by said holding process.

12. An image processing system having a host device and an image output unit, comprising:

5 generation means for generating a bitmap image on the basis of object inputted data;

hold means for holding attribute information representing attributes of said inputted object data in correspondence with each pixel of the bitmap image

10 generated by said generation means;

conversion means for converting the bitmap image generated by said generation means into data capable of being processed by said image output unit; and

switch means for switching the contents of  
15 processing in said conversion means on the basis of the attribute information held by said hold means.

13. The image processing system according to Claim 12, wherein said attribute information has information hierarchically, and wherein there are one or more  
20 attribute information of low order concept which is subordinate to that of high order concept.

14. The image processing system according to Claim 12, wherein said attribute information contains information representing whether object data corresponding thereto

25 is a monochrome attribute or a color attribute.

15. The image processing system according to Claim 12, wherein said attribute information contains information representing whether object data corresponding thereto is a character attribute or any attribute other than characters.

16. The image processing system according to Claim 12, wherein said attribute information contains information representing whether it has a single bit or a plurality of bit strings and whether or not it is a ground, and wherein said conversion means omits processing in a pixel which is a ground.

17. An image processing method, comprising the steps of:

generating a bitmap image on the basis of object data inputted;

holding in a memory attribute information representing attributes of said inputted object data in correspondence with each pixel of the bitmap image generated in said generation process;

20       converting the bitmap image generated in said generation process into data capable of being processed by an image output unit; and

switching the contents of processing in said conversion process on the basis of the attribute information held in said holding process.

18. An image processing apparatus for processing image data inputted for outputting, comprising:

input means for inputting image data configured by a plurality of objects;

5 develop means for developing said objects on bitmap image data; and

generation means for generating attribute map information showing the configuration of said bitmap image data on the basis of said bitmap image data

10 developed by said develop means and the attribute of said object.

19. The image processing apparatus according to Claim 18, wherein a generation method for attribute map information is changed with respect to an area where a

15 bitmap image of a specific attribute has already been developed.

20. The image processing apparatus according to Claim 18, wherein said attribute map information is generated by bringing it into correspondence with a two-

20 dimensional coordinate position of said bitmap image data, and said bitmap image data and attribute map information having the same coordinates as said bitmap image data are synchronized and transferred to an image forming unit.

25 21. The image processing apparatus according to Claim 18, wherein said generation means has image processing

means for subjecting said bitmap image data to image processing on the basis of said attribute map information.

22. The image processing apparatus according to Claim 5 21, wherein said generation means has an attribute map memory for storing attribute map information generated, and said image processing means subjects said bitmap image data to image processing on the basis of attribute map information to be obtained by referring 10 to the attribute map information stored in said attribute map memory.

23. The image processing apparatus according to Claim 18, wherein said attribute map information contains at least a vector flag, a character flag, an edge flag and 15 an edge boundary flag.

24. The image processing apparatus according to Claim 18, wherein said image processing means contains at least either dithering or convolution filter processing, or both of them.

20 25. An image processing apparatus, comprising:  
discrimination means for discriminating a type of  
a painting object;  
transmission means for transmitting object  
information thus discriminated to a rendering engine;

25 and

color rendering engine capable of adding the  
object information transmitted to rendering results in  
units of pixels.